

(c) For pressurized tanks used with a turbine engine, the test pressure may not be less than 5 p.s.i. plus the maximum operating pressure of the tank.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-15, 39 FR 35460, Oct. 1, 1974]

§ 23.1017 Oil lines and fittings.

(a) *Oil lines.* Oil lines must meet § 23.993 and must accommodate a flow of oil at a rate and pressure adequate for proper engine functioning under any normal operating condition.

(b) *Breather lines.* Breather lines must be arranged so that—

(1) Condensed water vapor or oil that might freeze and obstruct the line cannot accumulate at any point;

(2) The breather discharge will not constitute a fire hazard if foaming occurs, or cause emitted oil to strike the pilot's windshield;

(3) The breather does not discharge into the engine air induction system; and

(4) For acrobatic category airplanes, there is no excessive loss of oil from the breather during acrobatic maneuvers, including short periods of inverted flight.

(5) The breather outlet is protected against blockage by ice or foreign matter.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-7, 34 FR 13094, Aug. 13, 1969; Amdt. 23-14, 38 FR 31823, Nov. 19, 1973]

§ 23.1019 Oil strainer or filter.

(a) Each turbine engine installation must incorporate an oil strainer or filter through which all of the engine oil flows and which meets the following requirements:

(1) Each oil strainer or filter that has a bypass, must be constructed and installed so that oil will flow at the normal rate through the rest of the system with the strainer or filter completely blocked.

(2) The oil strainer or filter must have the capacity (with respect to operating limitations established for the engine) to ensure that engine oil system functioning is not impaired when the oil is contaminated to a degree (with respect to particle size and density) that is greater than that estab-

lished for the engine for its type certification.

(3) The oil strainer or filter, unless it is installed at an oil tank outlet, must incorporate a means to indicate contamination before it reaches the capacity established in accordance with paragraph (a)(2) of this section.

(4) The bypass of a strainer or filter must be constructed and installed so that the release of collected contaminants is minimized by appropriate location of the bypass to ensure that collected contaminants are not in the bypass flow path.

(5) An oil strainer or filter that has no bypass, except one that is installed at an oil tank outlet, must have a means to connect it to the warning system required in § 23.1305(c)(9).

(b) Each oil strainer or filter in a powerplant installation using reciprocating engines must be constructed and installed so that oil will flow at the normal rate through the rest of the system with the strainer or filter element completely blocked.

[Amdt. 23-15, 39 FR 35460, Oct. 1, 1974, as amended by Amdt. 23-29, 49 FR 6847, Feb. 23, 1984; Amdt. 23-43, 58 FR 18973, Apr. 9, 1993]

§ 23.1021 Oil system drains.

A drain (or drains) must be provided to allow safe drainage of the oil system. Each drain must—

(a) Be accessible;

(b) Have drain valves, or other closures, employing manual or automatic shut-off means for positive locking in the closed position; and

(c) Be located or protected to prevent inadvertent operation.

[Amdt. 23-29, 49 FR 6847, Feb. 23, 1984, as amended by Amdt. 23-43, 58 FR 18973, Apr. 9, 1993]

§ 23.1023 Oil radiators.

Each oil radiator and its supporting structures must be able to withstand the vibration, inertia, and oil pressure loads to which it would be subjected in operation.

§ 23.1027 Propeller feathering system.

(a) If the propeller feathering system uses engine oil and that oil supply can become depleted due to failure of any part of the oil system, a means must be